Amendment to the Claims

1. [currently amended] A recombinant porcine adenovirus expressing heterologous DNA, said DNA of interest being stably integrated into a site of said recombinant porcine adenovirus genome wherein said site is a non-essential region of a site selected from the group consisting ~~of one or more mapping units selected from the group consisting of mapping units 50-55, 55-65, 72-85, 81-84~~, the E3 region and map units 97-99.5 of PAV3.

2. [cancelled] A recombinant vector including a recombinant porcine adenovirus stably incorporating, and expressing heterologous DNA wherein said heterologous DNA is incorporated into a site selected from the group consisting of one or more mapping units selected from the group consisting of mapping units 50-55, 55-65, 72-85, 81-84, and 97-99.5 of PAV3.

4. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said recombinant porcine adenovirus includes a live porcine adenovirus having virion structural proteins unchanged from those in a native porcine adenovirus from which said recombinant porcine adenovirus is derived.

26. [cancelled] A recombinant vector as claimed in claim 2 wherein said heterologous DNA is stably integrated into the non-essential regions of the porcine adenovirus genome.

28. [currently amended] A recombinant vector ~~as claimed in claim 2~~ including a recombinant porcine adenovirus stably incorporating, and expressing heterologous DNA wherein said heterologous DNA is stably integrated into a non-essential region of the right hand end of the genome at map units from ~~about~~ 97 to ~~about~~ 99.5.

30. [currently amended] A recombinant vector ~~as claimed in claim 2~~ including a recombinant porcine adenovirus stably incorporating, and expressing heterologous DNA wherein said heterologous DNA is stably integrated into a non-essential region of the adenovirus E3 region of the genome ~~at map units from about 81 to about 84~~.

31. [currently amended] A method of producing a recombinant porcine adenovirus vector for use as a vaccine including inserting into a non-essential region of a porcine adenovirus genome, at least one heterologous nucleotide sequence in association with an effective promoter sequence wherein said heterologous nucleotide sequence is inserted into a site selected from the group consisting of ~~one or more mapping units selected from the group consisting of mapping units 50-55, 55-65, 72-85, 81-84,~~ the E3 region and map units 97-99.5 of PAV3.

32. [previously presented] A method as claimed in claim 31 wherein prior to insertion of said heterologous nucleotide sequence, a restriction enzyme site is inserted into said non-essential region of said porcine adenovirus genome.

39. [currently amended] A method of vaccination of pigs against disease including administering to said pigs a first recombinant porcine adenovirus vector stably incorporating, and expressing a heterologous nucleotide sequence encoding at least one antigenic determinant of said disease against which vaccination is desired, wherein said heterologous nucleotide sequence is inserted into a site selected from the group consisting of ~~one or more mapping units selected from the group consisting of mapping units 50-55, 55-65, 72-85, 81-84~~, the E3 region and map units 97-99.5 of PAV3.

40. [previously presented]A method as claimed in claim 39 including administering to said pig a second porcine adenovirus vector including at least one heterologous nucleotide sequence which differs from a heterologous nucleotide sequence incorporated in said first recombinant porcine adenovirus vector.

42. [previously presented]A method as claimed in claim 40 wherein said second porcine adenovirus vector incorporates, and is expressing at least one heterologous nucleotide sequence encoding an immuno-potentiating molecule.

44. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic polypeptide.

45. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an immuno-potentiating molecule.

46. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes antigenic determinants of infectious agents causing intestinal diseases in pigs.

47. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes antigenic determinants of infectious agents causing respiratory diseases in pigs.

48. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic determinant of pseudorabies virus (Aujeszky's disease virus).

49. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic determinant of glycoprotein D of pseudorabies virus.

50. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine respiratory and reproductive syndrome virus (PRRSV).

51. [previously presented] A recombinant vector as claimed in claim 44 wherein said heterologous nucleotide sequence encodes an antigenic determinant of Hog cholera virus.

52. [previously presented] A recombinant vector as claimed in claim 44 wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine parvovirus.

53. [previously presented] A recombinant vector as claimed in claim 44 wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine coronavirus.

54. [previously presented] A recombinant vector as claimed in claim 44 wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine rotavirus.

55. [previously presented] A recombinant vector as claimed in claim 44 wherein said heterologous nucleotide sequence encodes an antigenic determinant of porcine parainfluenza virus.

56. [previously presented] A recombinant vector as claimed in claim 44 wherein said heterologous nucleotide sequence encodes an antigenic determinant of Mycoplasma hyopneumonia.

57. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes FMS-like tyrosine kinase 3 (FLT-3) ligand.

58. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes interleukin-3 (IL-3).

59. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes porcine interleukin-4 (IL-4).

60. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes gamma interferon.

61. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes porcine granulocyte macrophage colony stimulating factor (GM-CSF).

62. [currently amended] A recombinant vector as claimed in ~~claim 2~~ claim 28 or claim 30 wherein said heterologous nucleotide sequence encodes porcine granulocyte colony stimulating factor (G-CSF).

63. [cancelled] A recombinant vector of any of claims 1 or 2, wherein said heterologous DNA is incorporated into a PAV3 genome region spanning mapping units 50-55 of PAV3.

64. [cancelled] A recombinant vector of any of claims 1 or 2, wherein said heterologous DNA is incorporated into a PAV3 genome region spanning mapping units 55-65 of PAV3.

65. [cancelled] A recombinant vector of any of claims 1 or 2, wherein said heterologous DNA is incorporated into a PAV3 genome region spanning mapping units 72-85 of PAV3.

66. [cancelled] A recombinant vector of any of claims 1 or 2, wherein said heterologous DNA is incorporated into a genome region spanning mapping units 81-84 of PAV3.

67. [cancelled] A method as claimed in any of claims 31 or 39, wherein said heterologous nucleotide sequence is incorporated into a PAV3 genome region spanning mapping units 50-55 of PAV3.

68. [cancelled] A method as claimed in any of claims 31 or 39, wherein said heterologous nucleotide sequence is incorporated into a PAV3 genome region spanning mapping units 55-65 of PAV3.

69. [cancelled] A method as claimed in any of claims 31 or 39, wherein said heterologous nucleotide sequence is incorporated into a PAV3 genome region spanning mapping units 72-85 of PAV3.

70. [currently amended] A method as claimed in any of claims 31 or 39, wherein said heterologous nucleotide sequence is incorporated into ~~a~~ the E3 region of the PAV3 genome ~~region spanning mapping units 81-84 of PAV3~~.

71. [previously presented] A method as claimed in any of claims 31 or 39, wherein said heterologous nucleotide sequence is incorporated into a PAV3 genome region spanning mapping units 97-99.5 of PAV3.

72. [currently amended] A recombinant porcine adenovirus expressing heterologous DNA, said DNA of interest being stably integrated into a site of said

recombinant porcine adenovirus genome wherein said site is a non-essential region of a site selected from the group consisting of ~~one or more mapping units selected from the group consisting of mapping units 50-55, 55-65, 72-85, 81-84~~, the E3 region and map units 97-99.5 of PAV3 wherein said recombinant porcine adenovirus comprises the major late promoter and tripartite leader elements of PAV3.

73. [currently amended] A recombinant vector including a recombinant porcine adenovirus stably incorporating, and expressing heterologous DNA wherein said heterologous DNA is incorporated into a non-essential region of a site selected from the group consisting of ~~one or more mapping units selected from the group consisting of mapping units 50-55, 55-65, 72-85, 81-84,~~ the E3 region and map units 97-99.5 of PAV3 wherein said recombinant porcine adenovirus comprises the major late promoter and tripartite leader elements of PAV3.